

Keep With Operator's Manual

PUMP KIT FOR 60C BACKHOE

Pump kit can be installed using tools ordinarily available. Shut off engine and set brakes during installation.

NOTE: Apply sealant only to all tapered threads unless coupled with swivel adapters. When using Teflon tape, wrap tape clockwise (as viewed from end) and wrap only twice. Keep sealant away from first two threads of tapered end to prevent contamination of hydraulic fluid. Do not use sealant on O-ring or flare adapter threads.

INSTALLING PUMP KIT

1. Fasten PTO adapter (15) to hydraulic pump (6) using 5/16 x 1/2 set screws (16). Fasten hydraulic pump (6) to pump mounting bracket (14) using 3/8 x 1-1/2 cap screws (17) and 3/8 lock nuts (19).
2. Check inside of tank for any debris. Fasten tank (1) to backhoe using 3/8 x 1-1/2 cap screws (17), 3/8 flat washers (18), 5/8 spacers (20), and 3/8 lock nuts (19).
3. Install 3/4 NPT x 3/4 NPT elbow fitting (8) to filter assembly (9). Install filter assembly (9) and elbow (8) to tank. Install 3/4 NPT x 7/8 JIC elbow fitting (10) to filter assembly.
4. Install 1/2 x 30 hose (11) to fitting on filter assembly. Route hose (11) under backhoe platform and connect to "out" port on backhoe valve.
5. Install 1-3/16 SAE x 3/4 NPT adapter fitting (5) and 3/4 NPT male Swivel x 3/4 NPT female 90° elbow fitting (4) to suction or inlet port on pump. Install strainer (22) into suction port of tank. Assemble 3/4 NPT male x 1 1/16-12 JIC 90° fitting (21) into strainer port. Install suction hose (3) to fittings on tank and pump.
6. Install 7/8 O-ring x 7/8 JIC elbow fitting (13) to "pressure" port on hydraulic pump (6). Install 1/2 x 52" hose (12) to "pressure" port on pump and "in" port on backhoe valve.
7. Fill reservoir to within one inch from top with 10W or 20W hydraulic oil with SAE J183-M2C33F classification. Dexron 1 ATF fluid and 10W engine oil with API "SD" classification are also acceptable.
8. Install breather cap (2) to reservoir.

MOUNTING HYDRAULIC PUMP TO TRACTOR

1. With tractor engine shut off slide hydraulic pump assembly onto tractor PTO shaft with pump mounting bracket sliding over tractor drawbar.

NOTE: Be sure PTO adapter locks firmly onto tractor PTO shaft.

2. Start tractor engine and run PTO at recommended speed.
3. Slowly cycle backhoe stabilizers several times and set them on the ground. Cycle all backhoe cylinders to check for proper lever function and purge air from backhoe hydraulic system.
4. Retract all cylinders. Shut off tractor engine and disengage PTO. Check oil in reservoir and fill to within one inch of top. Do not overfill or fluid may be forced out of breather cap.



WARNING: Escaping hydraulic fluid under pressure can penetrate skin causing serious injury.

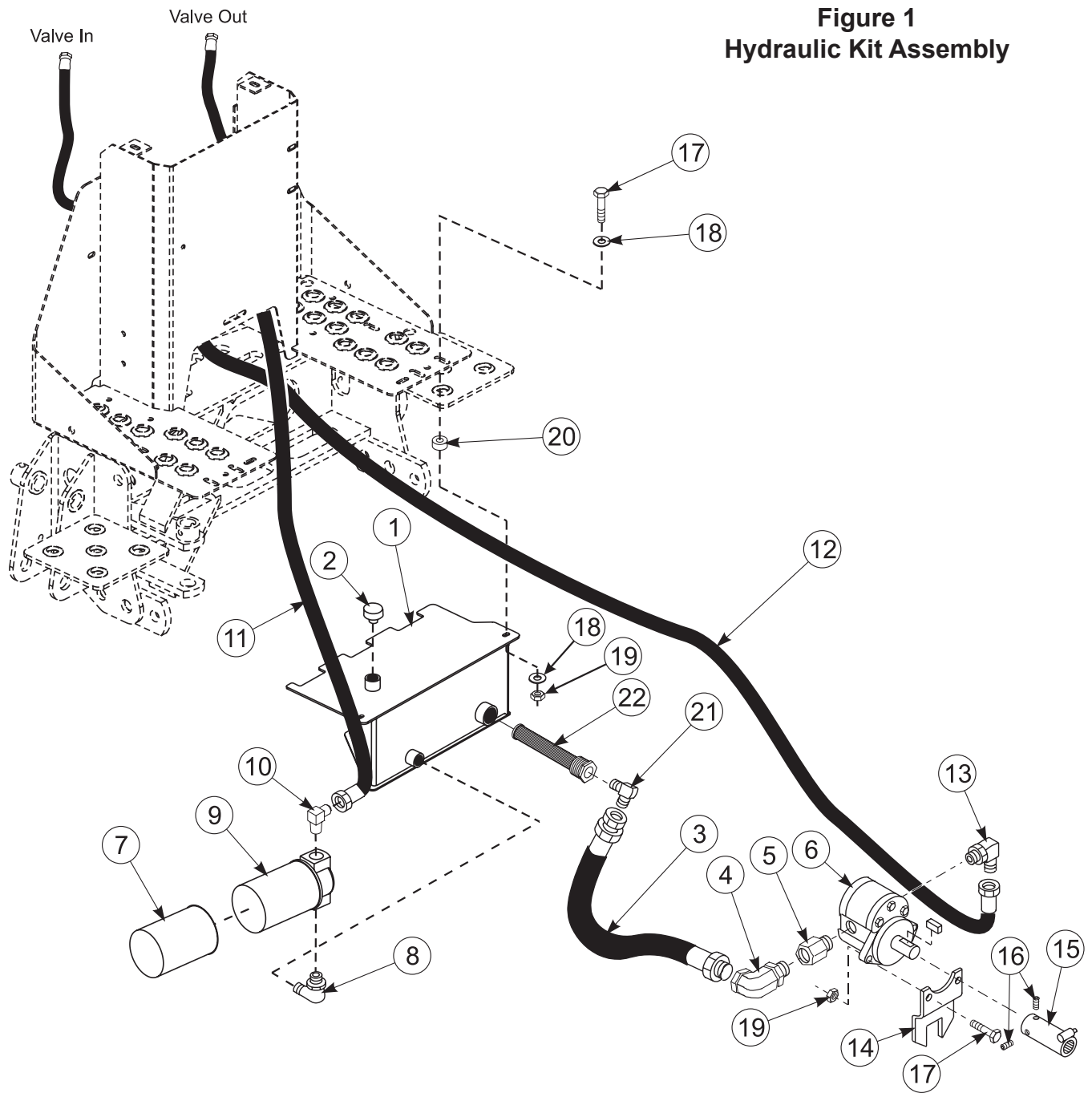
- DO NOT use your hands to check for leaks. Use a piece of cardboard or paper to search for leaks.
- Stop engine and relieve pressure before connecting or disconnecting lines.
- Tighten all connections before starting engine or pressurizing lines.

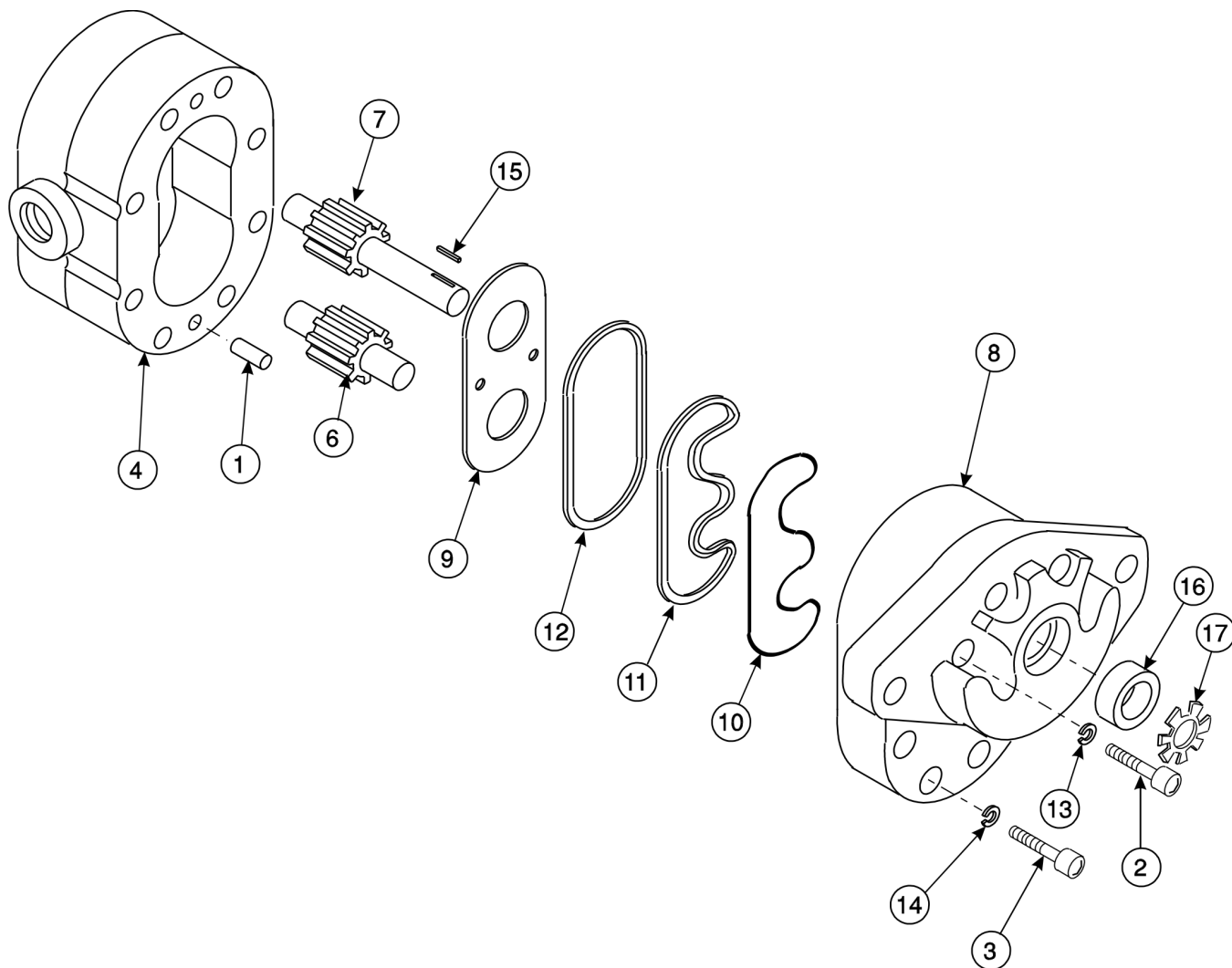
If any fluid is injected into skin, obtain medical attention immediately or gangrene may result.

PARTS LIST - RESERVOIR AND PUMP KIT

ITEM	PART NO.	DESCRIPTION	QTY.
1	55250	WDMT, Tank	1
2	52526	BREATHER, 3/4 NPT	1
3	51431-1	HOSE, 3/4 X 30	1
4	51430-2	FITTING, Adapter, 3/4-14 NPT Swivel x 3/4 NPT Female 90°	1
5	7361-1	FITTING, 1-3/16-12 SAE x 3/4-14 NPT	1
6	44797	PUMP With 3/16 Sq. X 1.12 LG Key	1
7	6095	FILTER ELEMENT	1
8	34644-3	FITTING, Elbow, 3/4-14 NPT x 3/4-14 NPT, 90°	1
9	6094+	FILTER, Assembly (Includes Element)	1
10	39609-1	FITTING, Elbow, 3/4-14 NPT x 7/8-14 JIC, 90°	1
11	38792-10	HOSE, 1/2 X 30	1
12	38792-8	HOSE, 1/2 X 52	1
13	32845-3	FITTING, Elbow, 7/8-14 O-ring X 7/8-14 JIC 90°	1
14	54039	BRACKET, Pump	1
15	44848	PTO ADAPTER	1
16	G102582	SCREW, Set, 5/16-18 X 1/2	2
17	41838-23	SCREW, Cap, 3/8-16 X 1-1/2	4
18	42502-8	WASHER, Flat, 3/8	4
19	41840-3	NUT, Lock, 3/8-16	4
20	46303-7	SPACER, 5/8	2
21	39609-10	FITTING, Elbow, 3/4-14 NPT x 1-1/16-12 JIC 90°	1
22	52527	STRAINER, 1-1/4 x 3/4 NPT	1

Figure 1
Hydraulic Kit Assembly





PARTS LIST - WEBSTER PUMP - 44797

ITEM	Part No.	DESCRIPTION	QTY.
1	*	DOWEL PIN	2
2	*	SOCKET HEAD SCREW, 3/8-16 x 1-1/2	4
3	*	SOCKET HEAD SCREW, 5/16-18 x 1-1/4	4
4	*	BODY ASSEMBLY, with Bearings and Seal	1
5	*	BEARING	4
6	*	IDLER SHAFT/GEAR ASSEMBLY	1
7	*	DRIVE SHAFT/ GEAR ASSEMBLY	1
8	*	COVER ASSEMBLY, with Bearings	1
9	**	WEAR PLATE	1
10	**	SEAL, PreLoad, Rubber	1
11	**	SEAL, Load	1
12	**	RING, Sealing	1
13	**	WASHER, 3/8	4
14	**	WASHER, 5/16	4
15	**	KEY, 3/16 Sq. X 1.12" LG	1
16	**	SEAL	1
17	**	RETAINING RING	1
18	45344	SEAL and RETAINING RING contains #16 & #17	1
19	2-3586	SEAL KIT contains one each #9, #10, #11, #12, #15, #16, #17 and four each #13 & #14	1

*Not available as separate repair part.

**Order Seal Kit 2-3586

PUMP SERVICE

1. Clean pump exterior thoroughly using cleaning solvent.
2. Remove key (15) from drive gear shaft.
3. Scribe a line across the two housing sections of the pump. This line should be drawn approximately parallel with drive shaft and it will act as a guide during reassembly.
4. Remove screws (2) and (3) which hold the two housing sections together.



CAUTION: *Extreme caution must be used when clamping with a vise to avoid distorting any parts.*

NOTE: Use a vice to hold front cover. Be careful not to damage any machined surfaces.

5. Separate the two housing sections by clamping front cover in vise and hitting rear cover with a soft mallet. Maintain alignment between sections to ease separation.



CAUTION: *Do not pry between the sections. Avoid damaging machined surfaces. Place hand over assembly while tapping drive shaft to prevent dropping parts or disengaging gear mesh when separation occurs.*

IMPORTANT: *Before removing gear set, apply marking dye to mating teeth to retain "timing" when reassembling.*

6. Remove idler gear (6), drive gear (7) and dowel pins (1) from front or back cover.
7. Remove wear plate (9), sealing ring (12), load seal (11) and rubber pre-load seal (10) from front cover using soft mallet.
8. Remove retaining ring (17), then remove shaft seal (16).

NOTE: *Shaft seal (16) is a force fit. Be careful to avoid damage to housing bore. Use an expandable hook type tool. Pull seal straight out to avoid damaging seal bore.*

NOTE: *It is not necessary to remove shaft seal (16) if it is in good condition and does not leak.*

9. Clean all parts in a suitable solvent. Use air pressure to remove any dirt or excess solvent.

10. Examine all parts for wear or damage. Remove nicks and burrs from all parts.

NOTE: *Wear plate (9), sealing ring (12), load seal (11), rubber pre-load seal (10), shaft seal (16), if necessary, and retaining ring (17) should be replaced.*

PUMP REASSEMBLY

1. Install shaft seal (16), if removed, with spring loaded lip facing in. Force seal into place using a flat steel rod larger than seal O.D. Place front cover on a smooth surface to prevent damage. Be sure seal is driven in straight to avoid damaging seal retainer or housing bore.
2. Install retaining ring (17).
3. Install rubber pre-load seal (10), load seal (11) sealing ring (12) and wear plate (9). Apply grease to back of wear plate and position bronze surface toward front cover.
4. Install idler shaft (6) and drive shaft (7) into front cover. Slide drive shaft through shaft seal (16).

IMPORTANT: *Use an oil coated smooth bullet-nosed type seal protector in contact with shaft end chamfer to prevent damage to shaft seal. Diameter of seal protector can be equal but not more than .010 below shaft diameter. If seal protector is not available coat the shaft with oil and rotate it while passing through seal.*

NOTE: *Generously lubricate lips of seal with general purpose grease.*

5. Install dowel pins (1) into front cover. With wear plate seals seated in their cavity, install back cover (4). Align scribed lines on outside of housings.
6. Install and hand tighten screws (2 & 3) and washers (13 & 14).
7. Rotate drive shaft before torquing screws (2 & 3).
8. Torque 5/16 screws (3) to 200 inch-lbs and 3/8 screws (2) to 370 inch-lbs.
9. Add clean oil to both ports and rotate drive shaft to lubricate pump. Shaft should be free enough to rotate by hand.

GENERAL TORQUE SPECIFICATIONS

USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN

Standard American and Metric Cap Screws

AMERICAN STANDARD CAP SCREWS										METRIC CAP SCREWS								
SAE Grade	5				8				Metric Class	8.8				10.9				
Typ. Head Markings									Typ. Head Markings									
Cap Screw	TORQUE				TORQUE				Cap Screw	TORQUE				TORQUE				
Size	FT·LBS		N·m		FT·LBS		N·m		Size	FT·LBS		N·m		FT·LBS		N·m		
Inches	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	Millimeters	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
1/4 - 20	6.25	7.25	8.5	10	8.25	9.5	11	13	M6 x 1.00	6	8	8	11	9	11	12	15	
1/4 - 28	8	9	11	12	10.5	12	14	16	M8 x 1.25	16	20	21.5	27	23	27	31	36.5	
5/16 - 18	14	15	19	20	18.5	20	25	27	M10 x 1.50	29	35	39	47	42	52	57	70	
5/16 - 24	17.5	19	23	26	23	25	31	34	M12 x 1.75	52	62	70	84	75	91	102	123	
3/8 - 16	26	28	35	38	35	37	47.5	50	M14 x 2.00	85	103	115	139	120	146	163	198	
3/8 - 24	31	34	42	46	41	45	55.5	61	M16 x 2.50	130	158	176	214	176	216	238	293	
7/16 - 14	41	45	55.5	61	55	60	74.5	81	M18 x 2.50	172	210	233	284	240	294	325	398	
7/16 - 20	51	55	69	74.5	68	75	92	102	M20 x 2.50	247	301	335	408	343	426	465	577	
1/2 - 13	65	72	88	97.5	86	96	116	130	M22 x 2.50	332	404	450	547	472	576	639	780	
1/2 - 20	76	84	103	114	102	112	138	152	M24 x 3.00	423	517	573	700	599	732	812	992	
9/16 - 12	95	105	129	142	127	140	172	190	M27 x 3.00	637	779	863	1055	898	1098	1217	1488	
9/16 - 18	111	123	150	167	148	164	200	222	M30 x 3.00	872	1066	1181	1444	1224	1496	1658	2027	
5/8 - 11	126	139	171	188	168	185	228	251	<p>NOTE: These values apply to fasteners as received from supplier, dry or when lubricated with normal engine oil. They do not apply if special graphite or moly sulphide greases or other extreme lubricants are used.</p>									
5/8 - 18	152	168	206	228	203	224	275	304										
3/4 - 10	238	262	322	355	318	350	431	474										
3/4 - 16	274	305	371	409	365	402	495	544										
7/8 - 9	350	386	474	523	466	515	631	698										
7/8 - 14	407	448	551	607	543	597	736	809										
1 - 8	537	592	728	802	716	790	970	1070										
1 - 14	670	740	908	1003	894	987	1211	1337										

37° JIC Fittings

Size	Thread Size	Assembly Torque		Tube Connection F. F. F. T.	Swivel Nut or Hose Connection F. F. F. T.
		in.·lb.	ft.·lb.		
-4	7/16 - 20	140 ± 10	12 ± 1	2	2
-5	1/2 - 20	180 ± 15	15 ± 1	2	2
-6	9/16 - 18	250 ± 15	21 ± 1	1 1/2	1 1/4
-8	3/4 - 16	550 ± 25	45 ± 5	1 1/2	1
-12	1 1/16 - 12	1000 ± 50	85 ± 5	1 1/4	1
-16	1 5/16 - 12	1450 ± 50	120 ± 5	1	1
-20	1 5/8 - 12	2000 ± 100	170 ± 10	1	1
-24	1 7/8 - 12	2400 ± 150	200 ± 15	1	1
-32	2 1/2 - 12	3200 ± 200	270 ± 20	1	1

O-Ring Face Seal Tube/ Hose Swivel Nut

Metric Tube O.D. (mm)	Dash Size	Thread Size (in.)	Swivel Nut Hex Size (in.)	Swivel Nut Torque	
				N·m	lb·ft
5	-3	--	--	--	--
6	-4	9/16 - 18	11/16	16	12
8	-5	--	--	--	--
10	-6	11/16 - 16	13/16	24	18
12	-8	13/16 - 16	15/16	50	37
16	-10	1 - 14	1-1/8	69	51
20	-12	1-3/16 - 12	1-3/8	102	75
22	-14	1-3/16 - 12	--	102	75
25	-16	1-7/16 - 12	1-5/8	142	105
32	-20	1-11/16 - 12	1-7/8	190	140
38	-24	2 - 12	2-1/4	217	160
50.8	-32	--	--	--	--

SAE O-Ring Fittings

Size	Swivel Nut or Hose	Assembly Torque		F. F. F. T.
		in.·lb.	ft.·lb.	
2	5/16 - 24	90 ± 5	7.5 ± 0.5	1 ± .25
3	3/8 - 24	170 ± 10	14 ± 1	1 ± .25
4	7/16 - 20	220 ± 15	18 ± 1	1 ± .25
5	1/2 - 20	260 ± 15	22 ± 1	1 ± .25
6	9/16 - 18	320 ± 20	27 ± 2	1.5 ± .25
8	3/4 - 16	570 ± 25	48 ± 2	1.5 ± .25
10	7/8 - 14	1060 ± 50	90 ± 5	1.5 ± .25
12	1 1/16 - 12	1300 ± 50	110 ± 5	1.5 ± .25
14	1 3/16 - 12	1750 ± 75	145 ± 6	1.5 ± .25
16	1 5/16 - 12	1920 ± 125	160 ± 6	1.5 ± .25
20	1 5/8 - 12	2700 ± 150	225 ± 12	1.5 ± .25
24	1 7/8 - 12	3000 ± 150	250 ± 12	1.5 ± .25
32	2 1/2 - 12	3900 ± 200	325 ± 15	1.5 ± .25

INSTALLATION INSTRUCTIONS